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ETHNOGRAPHICAL RESEARCH WORK

DURING

THE SWEDISH CHACO-CORDILLERA-EXPEDITION

1901-1902

BY

COUNT ERIC VON ROSEN

WITH 1 MAP AND 283 FIGURES

INCLUSIVE OF 33 PLATES IN BLACK PRINT

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[Title Page]

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CHAPTER VII.

The Chiriguano (I).

Ethnographical research among the Chiriguano. The Chiriguano country. The tribal name. Physical qualities. Dwellings. Pile-built granaries. Theories as to the origin of the practice of erecting buildings on piles. Fireplaces. Household furniture. Dress. Modes of dressing the hair. Face-painting. Ornaments. 8-30

During our journey from Tarija to Gran Chaco we came into touch with 114 the Chiriguano Indians, and on the march, as well as during our stay in the Chaco-Andean border region, I was successful in getting together a small but valuable ethnographical collection from these Indians. It is in connection with the publishing of the most important type specimens of this collection that I consider it suitable to give a brief description of the Chiriguano mode of living. Only in one or two cases, where I have arrived at results diverging from those of other students, have I found it necessary to enter into fuller details.

Mention of the Chiriguano tribe has, already in the 15th and 16th cen- 113
turies, been made by a number of writers, and it is especially in Franciscan 114
mission literature, earlier as well as later, that much valuable information may be found as regards this tribe.¹ Among the literature on the Chiriguano that had been produced prior to our journey, it may be that the books written by Corrado² and Serrano³ are those that best repay perusal, and of works subsequently published, those by del Campana⁴, Lehmann-Nitsche⁵, Outes⁶, Nino⁷ and Nordenskiöld⁸ are especially valuable.

¹ A very full list of works dealing with the Chiriguano is to be found in Nordenskiöld (11) and (12).

² Corrado (1).

³ Serrano y Sans (1).

⁴ del Campana (1).

⁵ Lehmann-Nitsche (1).

⁶ Outes (1).

⁷ Nino (1).

⁸ Nordenskiöld (11), (12), (13) and (14).

^{Ce}
[13] The Chiriguano inhabit the part of the Andean region, bordering on the Chaco, that roughly extends from the 18th to the 22nd degree of S. latitude. Within this region there is also found another tribe, viz., the Chané. These two tribes do not occupy each a territory of its own, but [648] Chiriguano as well as Chané villages are found throughout the whole district thus jointly inhabited by them. No enmity exists nowadays between these culturally allied tribes. After the last great Indian rebellion against the whites (in 1890), a small portion of the Chiriguano tribe moved [648] away into the interior of Gran Chaco, where it is believed that they are [167] still remaining. [175]

^{Ce}
[133] The western Chiriguano country, in which part the majority of the tribe is living, consists mainly of partly forest-clad mountain ranges, flanking [137] wooded (fig. 187) or grass-grown valleys and small plains. It is a poorly [312] watered country, but it mostly gives good crops, particularly gourd plants [241] and maize. The climate is tropical, but in the higher parts the heat is [132] not especially trying, except during the hottest season.

^{Ce}
[101] Although the Chiriguano and the Chané are on much the same level of material culture, they do not, however, belong to the same racial group, the Chiriguano being counted with the Guaraní group, whilst the Chané are Arawak. The Chiriguano, according to Matienzo, took possession of [175] their present country in the beginning of the 16th century, when a portion of the original inhabitants emigrated and settled in the Tarija valley.¹ Possibly the subjugated Indians belonged to the Chané tribe. In [97] later times this tribe has adopted the language of the Chiriguano, which [177] is Guaraní. Whence the Chiriguano originally came is not known, but it may be taken as probable that, formerly, this tribe inhabited the lower reaches [174] of Rio Parapiti.² The name of Chiriguano (quichua), which means 'dirt [131] people' was given them by the vainglorious Incas, who despised the Chiriguano people, affecting to look upon them as barbarians. The word [101] 'guano' is the name for the well-known bird manure-found on the coast of Peru and Chile. It seems however unfair indeed that the Chiriguano, [515] who, in contradistinction to the Puna and Chaco Indians, are scrupulously cleanly, should suffer from such a misleading and discreditable tribal name.

¹ de Matienzo (1), p. 150. Nordenfalk (16).² Nordenfalk (18), p. 156.

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Fig. 187. Stream flowing through primeval forest. On the branches of the acacia in the middle distance there can be seen an epiphytic plant (*Tillandsia usneoides*) and rows of Bromeliaceae. District of San Luis, Bolivia. Photo. E. v. R.

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142 To me, the Chiriguano seemed to be of better physique than both the Puna and the Chaco Indians, and their cast of features, as a rule, to be less rough-hewn than those of the above-mentioned tribes. Herma ten

[141] Kate has taken anthropological measurements of four Chiriguano men,
[127] whose average height was determined at 160.1 cm.¹ Lehmann-Nitsche, who has made anthropological observations of 50 Chiriguano (40 men and 10 women), is my authority for the data I have grouped together in the subjoined table.²

The Chiriguano; some physical data.

Sex	Average height, cm	Shape of skull	Colour of skin, Luschka's scale	Colour of hair, Fischer's scale	Iris, by Martin's scale
Men.....	163.4	Dolichocephalic — mesocephalic	Majority 23	Majority 4	Majority 3-4
Women.....	151.7	Dolichocephalic — mesocephalic	Majority 18	Majority 4	Majority 3-4

142 The Chiriguano complexion is, accordingly, brown with a tint of yellow; the iris is dark brown, the hair black, coarse and lank. The growth of hair on face and body is very scanty.

361 The Chiriguano are not a nomadic people, but live in permanent villages, some of which are the abode of only a few families, whilst others contain several hundreds of inhabitants. At Ibitibi I was studying a Chiriguano

[114] village that, according to the Indians, was inhabited by about 300 people. This village was situated on a plain surrounded by wooded mountains (fig. 188). The huts formed a large circle, with the chief's hut in the centre. In the open space between the chief's hut and the rest, there were growing some close-foliaged trees (probably of the Bignoniaceae family), affording much-needed shade. In earlier literature it is stated that the Chiriguano used to build a hut for strangers in the middle of the village plaza.³ In many of the Chiriguano villages I visited, the huts were scattered about without any perceivable order.

342 The huts are rectangular and with ridged roofs. (Figs. 188—192.) The walls either consist of perpendicular sticks, of tree-branches or reeds,

¹ Ten Kate (1), p. 26.

² Lehmann-Nitsche (1).

³ Nordenflieth (12), p. 2.

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342 placed close together and fastened with withies lashed on horizontally (figs. 189 and 190), or of branches woven together and daubed with clay (fig. 191). The roof, the construction of which is apparent from fig. 217, is thatched with grass. This is an especially interesting *method of roof-construction, used in Peru already in the pre-Columbian period*, a fact plainly evident from an ancient Peruvian vase-painting¹ (fig. 193). The walls and the roof are supported by a hut frame consisting of poles (fig. 217). ^A

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Fig. 188. Part of a Chiriguano village. Two small pile-buildings, used as maize-barns can be seen between the huts. Ithibi, Bolivia. Photo. E. v. R.

343 The granaries for storing maize are always built on pole supports
417 (figs. 188 and 192). Fig. 191² shows a step-ladder leaning against a tree.
[322] Step-ladders of this kind, usually hewn out of a single piece of wood, are used by the Chiriguano as means of access to these pole-supported granaries.

174 Baron E. Nordenskiöld, who has made a valuable analysis of the distribution
342 of pile-buildings in South America³, considers that when pile-buildings occur among a tribe inhabiting a region not exposed to inundations, then the idea of constructing buildings raised on piles has generally originated at the time when the tribe inhabited some other region, either a swamp,

¹ Joyce (1), fig. 13.

² Nordenskiöld (18), pp. 3-8.

³ [see cat. 116, p. 215 - Analyst]
² [see cat. 116, p. 195 - An.]

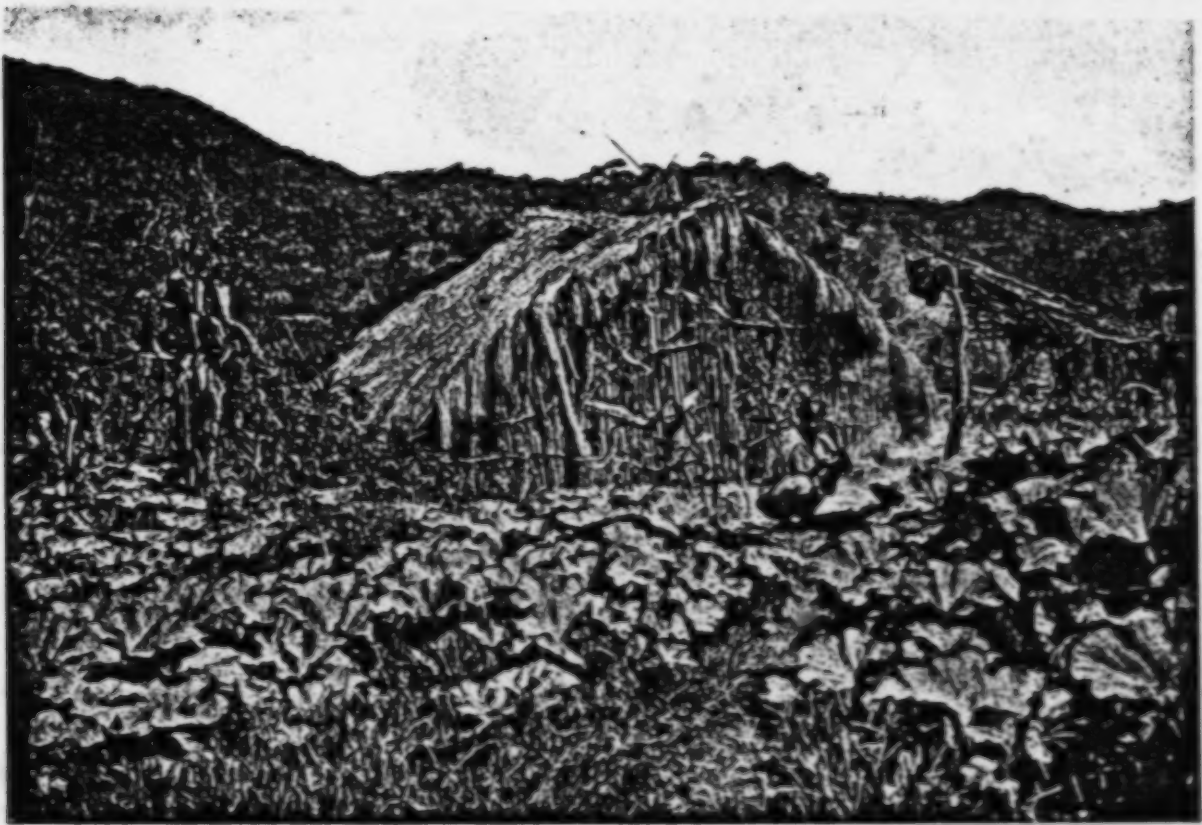


Fig. 184. Woman at a cooking fire in front of her hut. In the foreground a ground patch; in the right an open cooking shed, the roof of which was used as a rough pantry. Chiriguano, San Luis, Bolivia. Photo. E. v. R.

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Fig. 190. Woman in front of her hut. In the foreground a bedstead on which lies chewed maize; this maize is used in the preparation of «chicha», an intoxicating beverage. Chiriguano, San Luis, Bolivia. Photo. E. v. R.

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Fig. 191. Huts in the periphery of the circular market-place in the Chiriguano village of Ititibi. In right foreground, a ladder used on going to the pile-barn for maize. Bolivia. Photo. E. v. R.

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342 or a district threatened with flooding through rainfall or the flowing in
[114] of the oceanic tide. In my opinion, however, this has usually not been the case.

342 According to my thinking, it is the fear of predatory animals that has
343 given rise to the pile-construction idea. Those granaries built on pole-
825 supports, that are so commonly met with in widely different countries,
174 have, we know, as a rule been constructed for the express purpose of
[171] furnishing protection against noxious animals, such as lesser carnivora, rodents and insects. As an example, the 'njalla' of the Lapps is built



Fig. 192. Part of a Chiriguano village. To the right a pile-hut. Ithiké, Bolivia.
Photo. E. v. R.

342 as a protection against wolverines¹, and many of the native tribes of
343 Africa erect their food depositories, or grain bins, on pole-supports to
825 make them safe against mice and white ants.² Both the Balenge people,
171 who inhabit a fairly arid country, and the Babisa, who live on the edge
174 of the Bangweolo swamp, build their corn bins on piles.³ As the Babisa often build their huts on a platform of beaten clay⁴ (not piles, it will be noted) as a protection against the annual heavy floodings of the rainy season, this will naturally give rise to the supposition that the Babisa

¹ von Dänken (1), p. 35.

² von Ramm (6), pp. 411-412.

³ von Ramm (6), pp. 332, 349 (fig. A), and 411-412.

⁴ von Ramm (6), p. 319 and plate 67 (figs. C and D), also plate 68, fig. D.

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342 granaries, at any rate, are raised on supports in order to keep the stored
 343 crop from getting wet. That such is not the case will, however, be
 825 apparent from the fact that the granaries are empty during the time of
 171 the rains. It should be remembered that, in these parts, the period of
 174 vegetation coincides with the duration of the rainy season, and that the
 crops are harvested and stored only after the cessation of the rains.
 During the time the grain reposes in the granaries no rain falls at all,
 and on that account the granaries of the Balenge are often unprovided
 with a roof.¹ Moreover, Babisa, as well as Balenge, stated that the pile-
 built grain bins were constructed solely as a protection against damage



Fig. 193. Ancient Peruvian vase painting. After Joyon.

to the corn from rats and white ants. The practice of erecting buildings on piles as a safeguard against flooding is entirely non-existent in the Bangweolo region.

The fundamental idea of storing food in structures built on piles may, in my opinion, be traced back to the custom of primitive peoples of keeping freshly killed meat, and other food, safe from depredation by larger or smaller raiding animals, by suspension on trees. The 'njalla', which is erected on a single pole, or on the lopped stem of a growing tree left on its root, may, I think, be taken to be a development of the primitive tree cache. The four-poled Lappish larder called 'luopte', or 'luove' (cf. the Swedish words 'loft', and 'lave'), is on the other hand most probably an imitation of the 'hebrä' stores of the land-settled folk, which, presumably, also have received their pile-building construction with a view to forming a protection against noxious animals. For the 'hebrä' is probably nothing but a development of the 'lave'. In order to keep divers implements safe, not only from wild animals, but also from mischievous domestic cattle, such as goats, it is sometimes necessary to construct at the homestead a 'lave', the floor of which is either supported by three or four rooted tree-stumps, or by poles driven into the ground (fig. 189). When it is desired to shelter the stored utensils from rain, a roof is built at a suitable height from the floor, and if a still more effective shelter is required, the space between the floor and the roof is filled in with walls. At the stone-age

¹ von Rosen (4), fig. 193.

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experiment carried out at Rockstead in the summer of 1919¹, the 'savage men' soon found themselves compelled to build a 'lave' so that the goats should not damage such foodstuffs and implements as had to be kept outside the hut.²

It is my belief that the 'lave' has also supplied the idea of building dwelling-houses on pole-supports. Wherever people in a certain stage of civilization have found themselves settled on solid ground, they have had need of raised food-platforms, partly for keeping their foodstuffs safe from damage on the part of domestic as well as noxious animals, partly for the purpose of drying, smoking or roasting the food (see pp. 38, 47 and 48). If such a people, living on the edge of a lake or a swamp, had wished — for defensive purposes or some other reason — to build their dwelling-huts or other buildings in the water, then, if the bottom of the lake afforded good holding for piles, such buildings would have been constructed in the same way as the food-platforms or pole-supported granaries previously employed on firm ground (compare fig. 38 with fig. 115). Where the people in question has been lacking in sufficient skill to construct large pile-buildings in the water, or if the lake bottom was unsuited to this mode of construction, then huts were built on rafts or quagmire islands, after the manner of the swamp dwellers of Alvastra and Bangweulu.³

The furnishing of the Chiriguano huts is exceedingly plain. The fireplace, which forms a very necessary heating centre at night during the cold season, consists of a few stones serving as supports for the cooking pots. There is no hole in the roof for letting out the smoke, which has to find its way out through the doorway or through fissures in the walls. As a rule, the food is generally cooked on a fire outside the hut (fig. 184).

Bedsteads of the type seen in fig. 190 are to be found in nearly every hut. These bed frames are made of laths or reeds, and are covered with skins. Nordenskiöld states as his opinion that the idea of these bedsteads has not been borrowed from the civilization of the whites.⁴ In the analytical treatise he has written upon this question he adduces conclusive arguments for his opinion, as it seems to me. In Central Africa, one finds bedsteads that are very similar to the Indian ones,⁵ and that certainly have not

¹ Eklin, pp. 38-40.

² Eklin (3).

³ For lake and marsh dwelling places in different parts of the world, see Eklin (3).

⁴ Nordenskiöld (3), pp. 6-10.

⁵ see Rosen (2), p. 272.

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[114] been imitated from the Europeans. The Chiriguano also sleep in hammocks
[171] made of cotton yarn, and on reed mats and skins spread on the ground.
[53] Stools for sitting on I have not observed among the Chiriguano. They do,
353 however, possess such articles of furniture,¹ which, however, must be of
415 considerable rarity. Along the walls of the hut will be seen an orderly
[531] array of cooking and roasting pots, water pitchers, and pots for maize
beer, arranged in rows, often of exceedingly beautiful shape and with
painted decoration (figs. 217

—225). From wooden hooks
in the roof are hanging bun-
ches of maize cobs, pump-
kins or other foodstuffs;
arrows, bows, and other
gear. From the roof there
are also suspended clay bowls
(figs. 224 and 225), used as
repositories for smaller ar-
ticles of value. Clothing,
ornaments, and such like, are
also stored in large clay jars
placed on the ground. As
bowls there are also used the
scaly skin of armadillos, and
calabashes (fig. 226).

Outside every hut there
is, as I mentioned, a fire-
place which is generally used
for cooking the food, unless
the weather makes this im-



Fig. 194. Man and young woman, Chiriguano, San Luis, Bolivia.
Photo E. C. R.

356 possible. The huts, as well as the open spaces between them, are kept
particularly neat and clean. They are swept every day, and the sweepings
are burnt. The huts are practically always free from vermin.

291 The Chiriguano men nowadays generally wear shirt and trousers of
[177] European cut (fig. 194). The poncho shirt is, however, still to be met
with among this tribe², but only very rarely, and I have never personally

¹ Bartholomew (18), p. 184 and fig. 6; (19), no. 13 and 14, and fig. 3.

² Bartholomew (18), p. 39.

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seen any Chiriguano using this typical ancient Andean garment. Ponchos²⁹¹ of the cloak type, and robes of the kind used by the Chaco Indians, on⁽¹⁷¹⁾ the other hand, I have seen worn by the Chiriguano men, who put them on against cold and wet. Formerly the Chiriguano men dressed in the 'chiripa', which was a rectangular skirt that was fastened in front to a cord tied round the waist, then passed between the legs, and fixed to the cord above the buttocks. One may still see, here and there, some small boy wearing nothing but this primitive garment. On their heads the men often wear a broad, red, turbanlike frontlet (fig. 194), and, when setting out on long marches, they put on their feet sandals, the straps of which bear distinct resemblance to straps on sandals that have been found in ancient graves on Puna de Jujuy.¹

The women also possess sandals, but, like the men, generally walk about barefooted. The women's clothing consists of a loose-fitting, tubular garment made of woollen, or cotton, stuff. It is called 'tipoy'. The upper part of it is pinned together over the shoulders by means of cactus spines or metal pins, in the manner seen in fig. 190, which leaves the arms free, or the garment may be fastened under the armpits in the way the girl in fig. 194 is wearing it.

Nowadays the men mostly wear their hair bobbed, and with a frontal fringe (fig. 194), but I have seen boys, not fully grown, with long hair, hanging loose down (fig. 195). In former days all the men had long hair, which they gathered on the top of the head, where it was secured with a frontlet, a custom not yet quite discarded in some out-of-the-way parts of the country. The women let their hair grow long, give it a centre parting on the top of the head (fig. 190), plait it into tresses and tie it up, or allow it to hang loose. One may sometimes see girls with short hair (fig. 194), but in such cases the hair has been cut short as a sign that its owner has entered upon her first menstruation. On the death of a near relative it is also the custom of the women to cut off their hair.



Fig. 195. Chiriguano boy with long, flowing hair. San Luis, Bolivia. Photo. E. v. R.



Fig. 196. Woman with Chiriguano dress. San Luis, Bolivia. Photo. E. v. R.

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(178)

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(811)

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¹ Hachmann (18), fig. 29; von Koenig (3), fig. 24.

302 The hair is tended with very nest-looking wooden combs (fig. 196).
 [42] Among the Chiriguano I also noticed composite combs of the type used in the Chaco (fig. 85).

[386] Among the men as well as the women, the custom obtains of painting the face red, the pigment being prepared from *Bixa orellana*. Many of the men I met in the neighbourhood of San Luis had red-painted the whole face below the eyes, and some of the women had circular red spots, about 3 to 4 cm in diameter, painted on their cheeks. On the

302 spots, about 3 to 4 cm in diameter, painted on their cheeks. On the
 304 other hand, I did not see any tattooed Chiriguano. Instances of tattooing have, however, been noted by Nordenskiöld, who also has seen Chiriguano women who had stained their teeth dark blue with some vegetable

extract.¹ In the past, tattooing as well as teeth-staining were commonly practiced by the Chiriguano.



Fig. 105. Lip stud (umbel) of tin, with inlaid, painted, turquoise-colored glass beads. Chiriguano, Bolivia. ¹ A. Rosen, op. p. 360.

Another Chiriguano ornament intimately connected with the human body is the lip stud (*•tenbeto•*), which is exclusively worn by men and by youths who have attained marriageable age. The Chiriguano lip stud of the present day consists of a hollow tin cylinder with two laminate projections (fig. 197). The cylinder is

filled with some waxy substance, into which are embedded a number of small beads of stone, glass or porcelain, usually of a turquoise-blue colour. The lip stud is inserted from the inside, through a hole made in the lower lip, so that its circular, head-bowed, front surface barely shows beyond the skin of the lip. The base of the lip stud, which is slightly concave, then rests against the teeth of the lower jaw. This quaint ornament creates no disfiguring impression, but should a Chiriguano take it out, he would look both pitiable and ridiculous, as the saliva then runs through the large hole in the lip. Hence it is considered disgraceful to be seen without the lip stud, and on many occasions I have noticed the women scornfully deriding such men as had sold their lip ornaments. As soon as a man had taken out his lip stud, he generally put his hand to his mouth for concealment until he had time to put in a substitute stud, usually made of wood.

The lip stud that is here shown, which weighs 18.4 grammes, has a base plate 3.4 cm long, and its cylinder is 1 cm high, with a diameter

¹ Nordenskiöld (18), pp. 83, 84 and (19), pp. 107-108.

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of 2.5 cm. It is decorated with one large and many small, turquoise-blue beads made of glass or porcelain. 301

Necklaces of stone or glass beads are worn by the women, and even men may occasionally be seen with them. One such necklace (fig. 198), which I bought of a Chiriguano Indian in the San Luis district, consists largely of pierced, cylindrical or laminate, turquoise beads of exactly the same kind as I found when excavating the ancient site at Tolomosa in the Tarija valley.¹ The Chiriguano keep all stone beads they happen to

pick up on the ground, and also acquire them by barter from other districts. [437]

Besides turquoise beads, there are also blue, white, and red glass-beads threaded on this necklace, which to me proved a particularly costly bargain. It is probable that such necklaces as wholly or in part are composed of ancient beads are looked upon as amulets. To this question I shall refer later, in connection with my account of the supposed magical properties of certain Chiruti objects.



Fig. 198. Necklace of turquoise and glass beads. Chiriguano. Bolivia. 'A. Rosen, op. p. 202.



Fig. 199. Tawari-tawari breast ornament of silver. Chiriguano. Copacabana. Bolivia. 'A. Rosen, op. p. 202.

In the important work entitled 'Comparative ethnographical studies', Erik Nordenskiöld describes, from the Chiriguano, an interesting breast ornament called 'hoivira' (fig. 199), which I have not myself seen in use. It is of silver, double-edged over razor-fashion, and worn on a string round the neck. Such razors, usually ornamented, are nowadays not put to any practical use, but exclusively worn as ornaments. The leaves of these razors are, therefore, sometimes hammered together. On good grounds Nordenskiöld advances his opinion that these ornaments originate from the small razors, or pinners, that, already in pre-Spanish times, were used by the Andean Indians for removing hairs of the beard, or

¹ see Rosen (2), p. 202 and fig. 220-22.

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301 other inconvenient hair-growth, and which are still in use among the
 174 Chiriguano.¹

412 I have noted a circumstance, previously unheeded, that, in my opinion,
 (302) gives considerable weight to Nordenskiöld's theory as to the true Indian
 origin of the *baivëra* ornament. All breast ornaments of this kind have
 in their upper part a tubular horizontal perforation, open at both ends.
 In the middle of this barrel, and through the top, there is a hole. Through

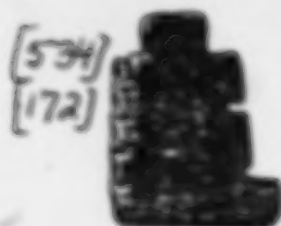


Fig. 200. Prototype of
 ornament. Considered from
 front. Baivëra. 10. The
 dotted line marks the
 hole for inserting a string
 in the same way as for
 the breast ornament, fig.
 199.

[439] this barrel and upper hole is run the cord by which
 the ornament is worn round the neck (fig. 199). This
 rather peculiar arrangement for fixing the cord on which
 the ornament is hung, is found in the majority of such
 ancient Indian hanging ornaments, whistles and flutes
 of stone, as were meant to be worn a string. As an
 example, the remarkable ancient Indian stone flute, found
 in the earth in the vicinity of Iruya,² has at one end
 been bored through (fig. 200) in a manner exactly
 corresponding to the arrangement for the cord in the
baivëra. This cord-fixing adaptation does not, to my
 knowledge, occur in any European object. For this
 reason it may surely be considered as very probable,
 not only that the original use of the *baivëra* as a pair of tweezers is of
 Indian origin, but also that the idea of carrying the tweezers on a string
 round the neck is Indian, and consequently has not originated from those
 more or less "white" jewellers that nowadays manufacture *baivëra* orna-
 ments, and sell them to the Indians. I have in another book depicted a
 fragment of a small, pre-Spanish, ornamented bronze tweezers, which, like
 the *baivëra*, has a circular perforation at its upper end,³ indicating that
 those tweezers, too, were worn on a cord, and consequently also in all
 likelihood served as a breast ornament.

¹ Nordenskiöld (19), no. 81-83, on end no.

² see Rosen (16), pp. 127 and 128.

³ see Rosen (16), fig. 211.

[p.205]

CHAPTER VIII.

The Chiriguanos (2).

Industries. Cultivated plants. Hunting. Fishing. Vessels for food and drink. Intoxicants and stimulants. Music and dancing. Social order. Customs governing marriages, childbearing, illnesses, death and burial. Character and temperament. Belief in metamorphosis.

The Chiriguano are mainly an agricultural people, but they also do a certain amount of hunting and fishing. Maize is the most important of their cultivated plants, and it is very extensively grown by them. Many other Indian domestic plants are also cultivated, viz. pumpkins, sweet potatoes, beans, mani, cactus with edible fruit (*Opuntia*), tobacco, cotton, uruks (*Bixa orellana*), and a reed plant (*Arundo donax*) for making arrow-shafts. Of imported cultivated plants grown by the Chiriguano, I have seen melons, water melons, sugar cane and oranges. According to Nordenskiöld, they also grow figs and millet,¹ these latter of course also having been introduced by the whites. Nowadays, European spades and hoes are used for loosening the soil. Among wild-growing food plants the algarrobo tree (*Prosopis alba*) is, to the Chiriguanos, the most important one. The Indians also prepare from the fruit of this tree an intoxicating drink to which they are much addicted.

The Chiriguano larder does not to any great extent depend on hunting the game, but formerly hunting must certainly have been an important source of subsistence. Snaring is, nowadays, the 'only' method of hunting employed by the Chiriguano. The long-bow, the pellet-bow, slings, bird-nets and clubs are still occasionally used in hunting.

In olden times the Indians were good shots with the bow and arrow, and, according to Linarraga, they then used bows the height of a man.

¹ Nordenskiöld (22), pp. 23 and 24.

On the left wrist they wore a small piece of wood as a protection against the blow of the bowstring.¹

Curiously enough, the present-day Chiriguano type of bow does not seem to have been exhaustively described by anyone; not even in Schmidt's account of South American bow types,² otherwise so exact, is there any mention of the Chiriguano bow. The reason for this may very likely be found in the circumstance that these weapons are said to be of rare occurrence nowadays, and that such few specimens as are still being made, are mostly used as toys and on that account typologically degenerated. Twenty years ago, when I travelled through a part of the Chiriguano country, the bow was, however, not so rarely seen as a hunting weapon as now, and I collected the seven specimens now reposing in the ethnographical section of the Riksmuseum at Stockholm. Beside these, there are two Chiriguano bows brought home by Baron Nordenskiöld, one of which is a toy bow. Two other toy bows that have been brought to Sweden by Nordenskiöld belong to the Gothenburg Museum. This forms the material from which I have compiled the following description of the Chiriguano type of bow.

By their string-fastening arrangement the Chiriguano bows differ from the Chaco-Andean bow types, which latter as a rule have no neck-shaped bow-end projections for the string. On the other hand, all Chiriguano bows that I have studied, even the toy bows, have neck-shaped ends for fastening the string, a circumstance indicating that the Chiriguano bow is no acquisition from Chaco-

Fig. 301. Riksm. 03. 3. 850. For section, see fig. 303.
Fig. 302. Riksm. 03. 3. 851. For section, see fig. 304.

Longbows. Chiriguano. Bolivia. About 1/2.

¹ de Lisarraga (1), p. 328. From Erl. Nordenskiöld.

² Schmidt (1), pp. 1037-1034.

Andean civilization, but is of a type that the Chiriguano themselves brought with them. 411

The bow staves, of which figs. 201 and 202 represent typical specimens, consist of an exceedingly resilient — though gnarled — kind of wood. As seen from the table here given, the lengths lie between 115 and 145 cm. The longest of the bows examined by me are therefore about 2 dm shorter than a Chiriguano Indian of average height (see table on p. 191), which goes to show that this type of weapon has grown smaller since the days of Lizarraga.

Chiriguano bows.

Riksmuseum catalogue No.	Stave Material	Length of stave, cm	Bow stave centre section	String-fixing arrangement	String material
03. 3. 854	Hard, resilient, gnarled wood	145	Type as in fig. 203	Stave-end pared down to a notch	Twisted rawhide
03. 3. 850	"	143	"	"	"
03. 3. 855	"	136	"	"	"
03. 3. 856	"	135	"	"	"
E. 640	"	123	"	"	"
03. 3. 851	"	119	"	"	"
03. 3. 853	"	115	"	"	"
03. 3. 851	"	119	Type as in fig. 204	"	"

The string side of the Chiriguano bow is plane or very slightly convex, and the front side convex, which gives the stave section the shape shown in fig. 203. Only one of the bows examined, fig. 202, has a differently shaped section, which is seen in fig. 204. It is worthy of remark that two bows (Nos. 03. 3. 850 and 03. 3. 854) are of a low reflex type, i. e., the stave, when the bow is unstrung, assumes a slight curve in the direction opposite the one it has when strung. From the way the string is put on, it is evident that the stringing has not been altered, so that the reflex type is not merely apparent. It is also possible that some of the other Chiriguano bows I have examined have originally been of reflex type, but that the staves, from tight stringing for a long time, have lost their original elasticity. It seems to me, however, most probable that these bows have acquired their reflex character unintentionally. As a rule, the reflex type is

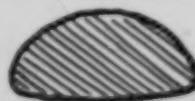


Fig. 203. Section at centre of bow stave, fig. 201. $\frac{1}{2}$.

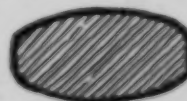


Fig. 204. Section at centre of bow stave, fig. 202. $\frac{1}{2}$.

411 unsuited to wooden bows, although, on the other hand, it is useful in the case of built-up bows, and bows made of horn.¹

411 284 For the purpose of fastening the string, the staves have been given neck-shaped ends, one of which often is longer than the other (fig. 205, a and b). The string, which consists of twisted rawhide, is fastened to the shorter neck end with a knot (fig. 205, a), or a loop, then wound round the other neck end, in the way seen in fig. 205, b. When not in use, the string is slackened on the bow. When the bow is to be used, the stave is stood on the ground, for purchase, when it can be bent as much as is desired, and then the slip-knot (fig. 205, b) is pulled tight. When the bow is strung taut, the slip-knot is locked, so that, when unstringing the bow, one compresses it against the ground in order to slacken the string; the slip-knot is then easily loosened, and the string lengthened as required. When the bow is not being used for shooting, this way of treating it rests the stave, and tends to preserve its elasticity. In shooting, the bow is held with the string-wound part downwards (see figs. 201 and 202).

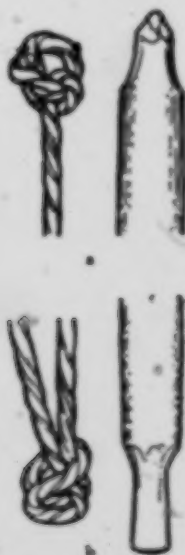


Fig. 205. String stem, and string-end loops of longbow shown in fig. 200, "a."

411 The arrows are long, sometimes as long — or even longer — than the bows. As to their size, and other particulars, this may be seen from figs. 206—214, and the table on p. 211.

[177] In the lancet-shaped heads of arrows of the types seen in figs. 206 and 207, the tang is pushed into a wooden arrow-head socket, the forepart of which is cleft. The rear end of the socket is fitted into the hollow fore end of the reed shaft. The socket is wound with string, so that its cleft part is kept tightly pressed against the tang, which latter often is smeared with beeswax, so as to make it stick firmly in the cleft. In order to give an increased firmness to the string-lashing, this is also heavily waxed, and so is the part of the socket that is fitted in the shaft. Iron arrow-heads of this type have probably been copied from the lanceolate wooden arrow-heads that are still in use among the Chané.²

¹ Longman and Walbund (I), pp. 48—49.

² Vide arrow-head, fig. 6 A, Nordenskiöld (II).

All arrow-shafts have the forepart strengthened by a waxed lashing of ⁴¹¹ bast or string, of a width from 5 to 11 cm. The rear end of the shaft is generally also reinforced with a waxed lashing, applied immediately above the string notch. This latter lashing is usually about 1 cm wide. In those of the arrows here reproduced that seem to be without notch-end lashing, this has become detached, except in the case of the arrow in fig. 40, which never was provided with a lashing of this kind.

I have mentioned in the foregoing that the Chiriguano cultivate a kind of reed plant (*Arundo donax*) in order to obtain therefrom a suitable material for making arrow-shafts. In making a reed into an arrow-shaft, the arrow-head is fitted to the thicker end of the reed (the lower part of the growing reed), because in this way, when the arrow is being discharged, the joints glide more easily over the bow stave than if the thinner end of the reed were turned to the front. The reed joints are, moreover, smoothed down with some sharp instrument in order to lessen the friction between arrow and stave. Arrow-shafts of a certain very light kind of wood are used by the Chiriguano of San Luis. Such wooden shafts I only saw on the long bird and fish arrows. I have never observed either arrow poison, or feathering on arrows, among the Chiriguano, but Nordenskiöld has seen feathered Chiriguano arrows.¹

For bird-shooting the Chiriguano use arrows with club-shaped, wooden heads. The striking-face of this knob-head is usually slightly conical, and sometimes given a small, cylindrical projection (fig. 212). This type of arrow-head has been constructed for the purpose of preventing the arrow — if it misses its object — from fixing itself in the stem or branch of a tree, and of making it instead drop to the ground. As birds frequently are sitting high aloft in the trees, the hunter would not have much chance of recovering his arrow, on missing his bird,



Fig. 206. Fig. 207.
 05. 3. 1901. 05. 3. 1901.
 Arrows with knob-heads, and reed shafts, Chiriguano, San Luis, Bolivia, N. Rosen.

¹ Nordenskiöld (18), p. 26.

[Text continues on p. 212]

[P. 210]

411
284Fig. 101.
op. 3. 823.Fig. 102.
op. 3. 824.Fig. 103.
op. 3. 825.Fig. 104.
op. 3. 826.Fig. 105.
op. 3. 827.Fig. 106.
op. 3. 828.Fig. 107.
op. 3. 829.

Arrows with points of hard, heavy wood, and shafts of wood.
Chiriguano, San Luis, Bolivia, P. A. Rosen.

Arrows for fish-throwing, with
two-pronged points of hard,
heavy wood, and shafts of
Chiriguano, San Luis, Bolivia,
P. A. Rosen.

The Chiriguano arrows in figs. 206—214. Synoptic table.

Fig.	Head					Socket		Shafting	Shaft			Length of arrow, cm	Mode of using
	Material	Shape	Length beyond socket, cm	Length beyond shaft, cm	Arrow point	Material	Length beyond shaft, cm		Material	Length cm	Feathers		
206	Iron.	Lanceolate with tang; no barbs.	14.5	—	None	Wood	8	The tang is stuck into a cleft in the socket. Socket fitted into a hole in the shaft.	Reed	132.5	None	155	For hunting large game such as jaguar and ostrich; also as war weapon.
207	"	"	11.5	—	"	"	11.2	"	"	106.4	"	129.1	"
208	Heavy hard wood.	Needle-like, with triangular section; no barbs.	—	35.2	"	—	—	Arrow-head stuck into a hole in the shaft.	"	78	"	113.2	For hunting various middle-sized game.
209	"	Needle-like, with square section.	—	35.6	"	—	—	"	"	82.9	"	718.5	"
210	"	Needle-like, with irregular section. A row of barbs.	—	21.8	"	—	—	"	"	100.3	"	122.1	Also used for shooting fish.
211	"	Needle-like, with triangular section. Barbed along all three edges.	—	32.3	"	—	—	"	"	103.8	"	136.1	"
212	"	Club-like, with projecting stout pin in middle of striking surface.	—	8.5	"	—	—	"	"	136	"	144.5	Bird-shooting.
213	"	Two needle-like heads with triangular section. The shorter head is barbed.	—	31.5 30.8	"	—	—	"	"	132.4	"	163.9	For fishing.
214	"	"	—	20.5 19.1	"	—	—	"	"	103.6	"	124.1	"

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223 if the arrow had not been given such a blob-shaped head. The force with which this lumpy head strikes its object, is sufficient to kill a middling-sized bird, provided the range is not too wide. The projection is intended for penetrating the feathers of the bird, so that the arrow shall not glance off the smooth plumage if the arrow should strike the bird at too acute an angle. These lumpy-headed arrows do not, as a rule, pierce the skin of the animal hit, which may be of advantage in killing small game.

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174 The pellet-bow is also used by the Chiriguano. Whether it forms a constituent part of South American culture, or whether it has been introduced from India or Europe, is a question not conclusively settled. For my part I consider it probable that also in South America this weapon is an independent invention, but that the type (especially as regards its chambering) possibly may have been subjected to influence from the *European* pellet-throwing crossbow.¹ The fact of the pellet-bow being, apparently, of more common occurrence on the Chaco than elsewhere, may be explained from proximity to the Andes, and influence from Andean civilization. Within the area of ancient Peruvian culture, the stone sling was the most important distance weapon, and we may be quite sure that the nations then inhabiting the wooded spurs of the eastern Andes got to know the stone slings of the mountain folk. In forest regions, however, slings are unpractical weapons, as, in the whirling preliminary to the throw, they are apt to get caught in tree branches. The idea of using pebbles as projectiles instead of arrows, has however been adopted by the forest-dwelling tribes, who have tried to convert it into shooting with the bow. A stone that has been shot away does not need to be retrieved, but the loss of an arrow is always a serious matter! To my mind, it is in this manner that the pellet-bow of South America has originated. In districts where there are no stones, as for instance the greater part of the Chaco, clay pellets are used instead of stones.

As an argument in support of the view that the pellet-bow is not originally a South American weapon, it has been pointed out that it is not found in Peru, Central America, or Mexico. Its absence in Peru is easily explained, as this country is in its greater part almost entirely treeless, so that here the stone sling would be a weapon so infinitely superior to the pellet-bow that the use of the latter would be purpose-

¹ For discussion of this matter, vide Nordenskiöld (17), pp. 50-53, von Rosen (5), pp. 170-180, Nordenskiöld (18), pp. 86-90.

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Fig. 215. A Chiriguano Indian with a fish spear.
San Luis, Bolivia. Photo.
E. S. R.

less. For the rest, the pellet-shooting long-bow is, compared with the pellet-shooting crossbow of the Old World, in any case a pretty poor weapon, both for war purposes and for hunting, which may explain its inconsiderable distribution even in well-wooded districts. Where this weapon now-days occurs, it is only used for killing small birds, for target practice, and as a toy.

Fishing is carried on in the water courses with which the country is sparingly supplied. The Indians use hooks, nets, fish traps and weirs. These fishing methods are, however, almost exclusively used for fishing in rivers or largish bodies of water. In shallow streams and rivelets, the fish are shot with arrows, or speared with a two-pronged fish-gig. Fishing with poison is also said to be made use of.¹

A fish trap consists of a large, bottle-shaped calabash, wide in its lower part, but with a narrow neck. The trap, which is placed under the lee of a few boughs stuck into the river bottom, must not be set in deeper water than makes it possible for a wading person to reach the neck of the calabash. Ground bait, consisting of crushed, sour, maize, is put into the calabash. The fish will then collect inside the calabash, and the fisherman has only to carefully raise the trap out of the water. In the sandy river banks ponds are dug, and connected by a small channel with the river. When fish have collected in the ponds, the connecting channel is blocked up, the pond emptied of water, and the fish gathered up.²

Among the Chiriguano Indians I visited, fish-shooting was a common practice. For this they used their smallest and weakest hunting bows. But it is also possible that those light bows I saw being used for shooting fish with, were exclusively employed for that purpose. If so, then the bow in fig. 202 is a fish bow. The arrows are long, and are usually provided with



Fig. 216. Detail of the fish spear in fig. 215. The groups are of hard wood.
Chiriguano, San Luis, Bolivia. Photo. E. S. R.

¹ Nordenskiöld (18), p. 40.

² Nordenskiöld (18), pp. 170 and 171.

⁴¹¹
 [226] two barbed prongs made of some hard wood (figs. 213 and 214). The
 [829] arrow in fig. 210, which has only one prong, is used both in hunting and
 for fish-shooting. The Chiriguano also use fish arrows pointed with a
 number of cactus spines.¹

[114] The fish spear has in later times become a very scarce implement
 with the Chiriguano. The only specimen obtained, as far as I know, is
 the one brought home by me, and now belonging to the Riksmuseum in
 Stockholm (figs. 215 and 216). Erland Nordenskiöld, who has compiled
 a map of the distribution of the fish spear in South America, has been
 kind enough to inform me that the only mention he has come across in
 the literature, concerning its occurrence among the Chiriguano, is to be
 found in the account of the Viceroy Francisco de Toledo's unsuccessful
 expedition against these Indians.²

The fish spear I came upon among the Chiriguano in the neighbour-
 hood of San Luis, has a 260 cm long shaft, made of some light kind of
 wood, very free from knots,³ at one end of which two barbed wooden
 prongs are lashed on by means of a thin leather thong. The full lengths
 of the prongs are, respectively, 32.5 and 31.5 cm, and they project 20.5 cm
 from the shaft. One of the points has, however, been of a somewhat
 greater length, but has got blunted off. Both points have seven barbs on
 their outer sides. To ensure a perfectly firm fastening of the prongs, the
 fore end of the shaft has been wrapped with a piece of cloth, and over
 this the prongs have been lashed on.

323 I have already enumerated the various kinds of Chiriguano household
 [462] furniture. Among them, clay vessels hold a very important place. The
 Chiriguano are clever potters. It is only the women, though, who work
 at this industry.

In fig. 217 we see a potter's workshop, with a number of finished and
 unfinished pieces of earthenware. At the hot entrance is sitting a woman,
 who, with a piece of stick, is giving a finish to a large pot, which has
 been built up of rolls of clay, and is still unbaked.

[126] In figs. 218—225 I have reproduced some typical Chiriguano clay
 vessels that I collected at Aguyrenda. These vessels are particularly well
 made. The peculiar rim warts seen on the hanging vessel in fig. 225,

¹ Nordenskiöld (22), fig. 19 a.

² Acuña (12), Part I, Chap. XV.

³ Unfortunately, during its transportation home, the handle was, unknown to me, cut into two parts.



Fig. 217. A pottery workshop, Chiriguano, Ititibi, Bolivia, Photo. E. v. R.

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- 217 -

323 counterparts of which are found on many ancient Peruvian clay vessels, have been more fully described by me in *«En förslagen värld»*.¹ The cord by which this vessel was suspended passed round the edge, and then upwards, between the points of the rim warts. At each wart a hole has been pierced through the rim of the vessel, but these perforations are so very small that they cannot very well have been used for fixing any string by which to hang up the vessel.

Besides the clay pots here reproduced — often graceful of shape and beautifully painted — there are also plain, unpainted clay vessels for cooking and other kitchen purposes. Chiriguano ceramics are of an exceedingly great variety as to form, and many of the shapes are identical with those of clay vessels found in ancient Indian graves and in the ground of ancient dwelling-sites in those regions of the Andes that border on the present Chiriguano country.

824 Next to clay vessels, bottles and bowls made of calabash may be said
415 to predominate among the household furniture of the Chiriguano. The bowls are often provided with pokerwork ornament (fig. 226).

273 On festivals — and also usually, though not always — the Chiriguano drink an intoxicating liquor (*«chicha»*, in Chiriguano: *«cangui»*), which they prepare from maize. In

[415] huge wooden mortars the maize is
[531] pounded to flour, which is poured

→ into large clay vessels filled with water. This mixture is made to boil, and when it has cooled down, lumps of chewed maize dough are put into it to produce fermentation. These masticated mouthfuls of maize are usually allowed to dry in the sun, before use, and are then frequently spread on a

[114] bedstead (fig. 190). This method of preparing maize beer naturally



Fig. 226. A jug for holding maize beer. Earthenware. Bottom part and handle unpainted. The rest painted brownish yellow, with ornaments in dark brown (marked in black) and red (marked in this text) Chiriguano. Agaveville, Bolivia. *En förslagen värld*, p. 627.

¹ *En förslagen värld*, p. 224 et seq.

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by them to any considerable extent; I myself never saw any Chiriguano smoking.

The Chiriguano are very fond of music and dancing. Their musical instruments consist of a kind of primitive trumpets of cow-horn, reed flutes, whistles and drums.

An interesting Chiriguano whistling pipe is here reproduced, in fig. 127. It consists of a flat piece of some hard and heavy wood; is 18.2 cm long, 3.4 cm wide, and has a section as set out in the figure. It has, pierced through its longitudinal axis, a tubular perforation, 2 to 3 cm in diameter, and open at both ends, running from end to end of the instrument. In the centre of its upper edge there are two, somewhat smaller, holes through which is threaded the string which allows of the pipe being worn round the neck as a breast ornament. The carrying cord running through two holes, side by side, probably indicates that the pipe was meant to hang horizontally on the breast. If there had been only one hole for the cord, the pipe would have tilted one way or the other, like the beam of a pair of scales. The pipe is designed for blowing on in the



Fig. 127. Flat bowl of earthenware, inside and bottom enameled. The rim of a pointed yellowish white, with ornaments painted in dark brown (marked black) and all enameled by the hand. Chiriguano, Argentina. From 'La Ethn. et. 2. 1911'.



Fig. 128. Whistling bowl, for blowing and whistling. Ceramics, inside and bottom enameled. The rim pointed yellowish white, with ornaments in dark brown. Chiriguano, Argentina. From 'La Ethn. et. 2. 1911'.



Fig. 129. Whistling bowl, for blowing and whistling. Ceramics, inside and bottom enameled. The rim pointed yellowish white, with ornaments in dark brown (marked black) and all enameled by the hand. Chiriguano, Argentina. From 'La Ethn. et. 2. 1911'.

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534 same way as Pan pipes, and naturally gives out tones, when one end of the tube is closed, different to those producible with both ends open. The pipe is open at both ends, therefore, not only because this allows the instrument to be easily cleaned from dust, dirt and saliva, but also because this construction gives the possibility of a greater number of tones.

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Fig. 218. Front view of whistle, showing the internal structure. Chiriguano. Length before 1/2 inch by 1/2 inch.



Fig. 219. Whistle, made of hard, black wood, incised ornament. The middle near one end of the tube have been filled up with a very softness. Chiriguano. Agaveyru. Bolivia. 1/2 inch. sp. 2. 845.

539 171 That the Indians occasionally also give a thought to keeping dust, etc., from getting into their whistling pipes, is, besides, evident from the pipe shown in fig. 218, which is an Incaean whistle from Cautin, Chile, a whistling pipe of wood, 17 1/2 cm long. A common brass thimble is fitted over the lower end of the pipe, and for its top end there is a small, well made stopper of woollen-yarn, connected to the pipe with a string, so as not to get lost when taken out for the whistle to be blown. Concerning this stopper, Eric Thomson, who has reproduced the pipe in one of his works, writes as follows: "Este tapón sirve para cerrar la boca del silbato, cuando éste no se usa, e impedir que entren las cenizas y otras impurezas." "This stopper serves to keep the mouth of the whistle closed when the latter is not being used, and prevents dust and other dirt from entering."



Fig. 220. Whistle, made of wood, 17 1/2 cm long. Chiriguano. Agaveyru. Bolivia. 1/2 inch.

Objects of similar form, in construction corresponding to the one here reproduced in fig. 227, have been found in ancient Peruvian graves, and not only the Chiriguano, but also many other tribes now inhabiting areas in the neighbourhood of what once was the Inca domain, are still

using whistles of this type.¹ Nordenskiöld has advanced a theory as to the origin of the Serére whistle, which is highly interesting. On the ground of the similarity of construction that this type of whistle has to a balance beam shown in fig. 229, with its cords for weights and load still in preservation, found in Peru, Nordenskiöld is of the opinion that the Serére whistle is probably the beam of a balance, but that its original use has been forgotten.² By blowing, in play, into one end of such a balance beam, a tone was produced. This way of whistle-blowing gradually became widespread and popular, and, eventually, whistles were manufactured that were of a construction similar to that of the balance beams of the ancients. More and more the balances ceased to be used as such, and finally it was altogether forgotten that the whistle had been made as a copy of the balance beam.

On my first acquaintance with this theory of the Serére whistle having originated from the balance beam, it seemed to me so well grounded that I accepted it.³ But afterwards I quite changed my opinion in this question, for reasons set out below. The ancient Peruvian balance referred to by Nordenskiöld is undoubtedly of a very unpractical construction. Like the Serére whistle, the balance beam is *blow through from end to end*, and provided with *two holes, close together, for its suspension*. Even if in rough and primitive weighing there may occasionally be a certain advantage (a saving of time) in using a balance that is not too sensitive, suspending a balance from two



Fig. 229. Beam, with a wooden beam. Probably an improvement from a whistle of Serére type, which forms the bar of the balance. Found near San Juan. 1/2. Illustration from E. Nordenskiöld.

¹ Nordenskiöld (11), p. 125.

² Nordenskiöld (11), pp. 187-188.

³ see Rosen (6), pp. 211-212.

534 points of support, in the way
 771 shown in fig. 229, is conceivable,
 174 as it would enable the holder
 114 of the balance to influence, with
 an imperceptible movement of
 his hand, the balancing of the

beam. Another point which strikes me as peculiar, is, that the string by which weights and objects for weighing are suspended, should be made to pass through a hole that runs the whole length of the longitudinal axis of the beam. A perforation of such a length obviously represents a great deal of labour, which, moreover, in the case of a balance beam, would be quite unnecessary. Surely the simpler plan would have been to fix a string through a small hole at each end of the beam.

The above were my reasons for beginning to form the opinion that the Old Peruvian balance, fig. 229, had been rigged up to do duty as a makeshift. A proper balance not being at hand, a tubular whistle, fig. 230, was pressed into service. In this way the ancient Peruvian balance, fig. 229, would — if my theory is correct — simply prove to be a *whistle that had been provisionally fixed up as a weighing instrument*.



Fig. 229. Old Peruvian scale. From
 Damp.

It is not impossible that this way of hastily improving a balance — rather a dull one, admittedly, but enable for rough weighing — was not infrequently employed. When I acquainted Nordenfalk with my theory as to the constructional purpose of the balance reproduced in fig. 229, he had the great kindness to send me all reproductions of Old Peruvian balances that were in his possession. Three of these retain the cord by which the beam was suspended (the pining cord), and in these three, this cord is fixed through a hole in the center of the beam, fig. 231. Two of the balances are provided with cords on which to hang the weights and the objects to be weighed. These cords are not taken through the full length of the balance beam, but attached to it by means of holes bored

Fig. 230. Ancient Peruvian wooden whistle (1). 1/4. From
 Nordenfalk. The end of the tube has been stopped up,
 usually an eighth of the whole having been fixed on
 last piece, with both ends open. All other known Old
 Peruvian objects of this type have both ends open.

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in each of the lower corners of the beam ends, fig. 131. From the illustrations representing the rest of the Old Peruvian balances it cannot be seen in what way the pining and weight cords were fast. The balance in question here, however, been published in Hany's grand work, *Galerie americaine*, and from that work I have therefore endeavored to gain information concerning this matter. There is only one balance, one without weight cords, that has been given a detailed description, and regarding this, it is stated that the beam, at its centre, has a vertical perforation (for the pining cord), and that the lower corners of the beam ends are each pierced with a slanting hole (*les angles inferieurs sont aussi perforés sous obliquement*).¹ If one or more of the balances reproduced had been of a different construction in this detail, the fact would no doubt have been noted in the text.² From what I have adduced above, it therefore follows that the illustrative material, which Nordenskiöld so charitably submitted for my criticism of his theory, most essentially enhances the probability of my opinion that the unhandy Old Peruvian weighing apparatus shown in fig. 132, is an improvisation of a whole which, as I aimed at proving in a separate monograph, belongs to a type of open cradles which is widely distributed over the American continent.³

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As mentioned, the Chiriguano live in villages, and it is only exceptionally that one comes across isolated huts. Each village is under the authority of a headman, or chief.

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Both sexes marry at an early age. Monogamy is the rule, but well-to-do men, and chiefs, may be found who have several wives. When a girl menstruates for the first time, her hair is cut short (fig. 194), and she is kept shut up in a hut until her hair has grown long again, after which she is considered marriageable. When a boy attains to puberty, a hole is made through his lower lip, and a wooden plug is put into the hole. Subsequently this is exchanged for a bead-studded *rembea* (figs. 194 and 197). Marriages are celebrated by feasting, when large quantities of maize beer are consumed. The women pass through childbirth easily, and therefore do not require many days of nursing after the child has

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146¹ Hany (3), p. 108.² As the British Museum there is no ancient Peruvian scale apparently of the same construction as those described by Hany, *op. cit.* p. 129, fig. 11.³ *see Rosen (5)*

846
[844] come into the world. But, in observance of a custom largely prevalent among the Indians of South America, the husband pretends for several days to be lying in childbed, and then keeps an invalid diet!

755 Illnesses are treated by medicine men, who by incantations and other
756 resorts of magic try to expel the evil.

764 After a death, the corpse is placed in a large earthenware jar, which
763 is put into a hole dug in the ground. According to what a Spanish-

speaking Chiriguano Indian told me, it was formerly customary to sever, by incision, the spine of a dying person, in order to shorten his death agony. Before life was extinct, the body was thrust into a huge jar, into which also ornaments, weapons, food and drink were put, the mouth of the vessel then being carefully closed up with an earthenware plaster. It was important that the lid was put on before the dying person had drawn his last breath. By doing this, it was thought that the soul of the dead would for a time be held in confinement, so that it would not be able to work any harm on the living.¹ The jar was afterwards interred inside the dead person's hut.

181 With the exception of the Chacó — a tribe on the same cultural level as the Chiriguano — the latter seem to me a people considerably superior to the neighbouring tribes, whether inhabiting the mountain regions or the Gran Chaco. Both the mountain- and the Chaco Indians are dirty and of uncleanly habits, whilst the Chiriguano on the contrary

[55] are very observant of bodily cleanliness. For example, the Chiriguano women bathe every day, and often several times a day. Among the

[33] Chiracó, the girls are in the habit of living in loose sexual relations with a plurality of men, before marrying, whilst the Chiriguano girls, as a

[171] rule, preserve their chastity intact until they marry. Also as regards material culture, the Chiriguano and the Chacó are on a higher plane than their present-day neighbours. When compared with the ceramics of the

[323] peoples of the Chaco, the main-beer vessels, for instance, that are characteristic of the Chiriguano and the Chacó, stand out as veritable show pieces.

181 Of old, the Chiriguano have a reputation for being a very warlike
648 nation. As early as in the time of the Incas, this tribe made a raid into ancient Peruvian territory,² and even as late as 1890 the Chiriguano

¹ Cf. Kricheldorf (7), p. 126.

² Humboldt (16).

— 225 —

gave regular battle to the whites. This battle, in which about 5,000 Chiriguano Indians took part, was fought at Curuyqui, on the tableland of Boyuvis. The result of the struggle was long undecided, but the Indians were at length compelled to give way before the superior weapons of the whites. 181 648

According to a Chiriguano legend, man's soul, some time after corporal death, comes to the abode of the great spirit Tumpã, where it enjoys to the full everything in which it delighted during its earthly existence. But no joy is permanent. When the soul has spent its allotted time with Tumpã, it is obliged to return to the world and there enter into the body of a fox. When the fox dies, the soul moves into a rat, and, when this animal dies, into a branch of an old tree in the forest. The tree ages, withers away and dies and, as the branch decays, the soul, too, gradually perishes. When the branch has finally become mould, the flame of the soul is extinguished for ever. 775



Fig. 525. A large wooden cross raised over the Franciscan mission for Chiriguano, at Agapaymã. Gosa Chaco, Bolivia. Photo, E. v. R. 797

[pp. 226-268 not processed]

[p. 269]

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